

EXHIBIT D

Volume I
Lishan Aklog, M.D.

Recor Medical, Inc. vs.
Medtronic Ireland Manufacturing Unlimited Co.

1 UNITED STATES DISTRICT COURT
2 NORTHERN DISTRICT OF CALIFORNIA
3 SAN FRANCISCO DIVISION
4
5 RECOR MEDICAL, INC.,
6 Plaintiff and
7 Counterclaim-Defendant,
8 vs. Case No.
9 MEDTRONIC IRELAND 3:22-cv-03072-TLT
10 MANUFACTURING UNLIMITED CO.,
11 Defendant and
12 Counterclaim-Plaintiff,
13 MEDTRONIC VASCULAR, INC., and
14 MEDTRONIC, INC.,
15 Defendants.
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21 DEPOSITION OF LISHAN AKLOG, M.D.
22 San Francisco, California
23 Tuesday, June 25, 2024
24 Volume I
25

21 Reported by:
22 CHRIS TE SELLE
23 CSR No. 10836
24
25 Job No. 10144429

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Deposition of LISHAN AKLOG, M.D., Volume I,
held at the offices of Latham & Watkins, Suite 2000, San
Francisco, California, beginning at 9:04 a.m. and ending
at 3:20 p.m., on Tuesday, June 25, 2024, before Chris
Te Selle, Certified Shorthand Reporter No. 10836.

1 Q. Do you agree just as a matter of general
2 anatomy that renal nerves extend generally within the
3 adventitia, the blood vessel?

4 A. No. I think it's more complicated than that.
5 I'm happy to elaborate.

6 Q. Yeah, please. What do you mean?

7 A. The anatomy of the renal veins relative to the
8 renal artery anatomy is complex. It's been described.
9 There are variations within the extent of the artery,
10 from proximal to distal. There are portions of the
11 artery where there are a substantial number of renal
12 veins, renal nerves outside the blood vessel wall.

13 So, I don't agree with the way you
14 characterized that.

15 Q. Okay, fair enough. So, there are some renal
16 nerves that reside outside of the blood vessel wall.

17 Are there also renal nerves that reside within
18 the adventitia?

19 A. Yes, that is, that is within the adventitia,
20 within the peri-adventitia, and that depends entirely on
21 the patient's own anatomy, and where you're looking,
22 where you are along the length of the artery.

23 Q. Would you agree that in performing renal
24 neuromodulation, when renal nerves are ablated, that
25 adjacent areas of the adventitia can be damaged?

1 MS. HARMS: Objection. Vague.

2 BY MS. VEGA:

3 Q. It is. Okay. Can you give me an example in
4 which the term blood vessel wall is used where it's not
5 referring to all three?

6 MS. HARMS: Objection. Vague.

7 THE WITNESS: I don't know. I'm not really sure.
8 I don't really want to -- I can't come up with a --

9 BY MS. VEGA:

10 Q. You can't think of a --

11 (Cross-talk, reporter clarification.)

12 A. I can't come up with a specific example.
13 Happy to, if you would like me to spend some time, I'm
14 happy --

15 Q. Yeah, I --

16 A. -- to try.

17 Q. -- I would, but let me point to a place in the
18 patent and see if that's helpful. Column 10, line 25,
19 it says, in figures 5A and 5B, the electrode, 306 A
20 prime, is expanded into contact with the vessel wall.

21 That's referring to the blood vessel wall,
22 right?

23 A. Let me just take a look at the figure.

24 So, the figure shows what appears to be an
25 electrode, 306 A prime, in contact with the inner wall

1 of the blood vessel.

2 Q. Is it in contact with the media?

3 A. Doesn't appear to be.

4 Q. And is it in contact with the adventitia?

5 A. It doesn't appear to be.

6 Q. Okay. Have you ever used, as a person of
7 skill in the art, have you ever used the term blood
8 vessel wall to mean something less than all three
9 layers?

10 MS. HARMS: Objection. Vague.

11 THE WITNESS: Yeah, I mean, it's, it's, I mean, I
12 can't answer that in isolation. I mean, it depends on
13 the context of using the term.

14 BY MS. VEGA:

15 Q. And my question is not so much what are the
16 specific examples in which it's used in that way, but
17 whether it has a meaning that would be in reference to
18 something less than all three, just as a general matter.

19 MS. HARMS: Objection. Vague.

20 THE WITNESS: You can, again, this is an example.
21 You can qualify. I mean, that's all I can really say.
22 I think we may be going in circles. You can qualify the
23 term blood vessel wall however you want in whatever
24 context --

25 BY MS. VEGA:

1 always refers to all three layers of the blood vessel?

2 A. Again, I'm sorry, I can't opine on that,
3 because it depends on the context in each individual
4 case, and I did not perform my analysis to, to analyze
5 claim language or language elsewhere in the patent where
6 blood vessel wall appears, to understand its meaning
7 specific to that particular phrase.

8 Q. I see. So, your opinion is based on blood
9 vessel wall as it's used in claim 1 of the patent, but
10 your opinion doesn't extend to where it might be used
11 elsewhere, is that fair?

12 A. That's not what I said, no.

13 Q. Can you help me. What are you saying?

14 A. I'm saying, what I'm saying is, honestly,
15 exactly what the sentence says, which is that, that I
16 opined on the construction of the term blood vessel wall
17 in the context of the patent as a whole, and concluded
18 that its plain and ordinary, ordinary meaning, as is
19 commonly understood, is that it includes three layers,
20 and that it would be useful, if people so choose, to
21 describe, to include that level of detail so that a
22 layperson can understand that a blood vessel wall has
23 three layers.

24 I did not opine on its specific use and
25 specific language within the claims or elsewhere in the

1 patent.

2 Q. I see. So, your opinion is based on a reading
3 of the patent in its entirety, and what that would mean
4 to a person of skill in the art, right, but not as to
5 its specific use in, for example, claim 1, is that fair?

6 MS. HARMS: Objection. Vague, and to the extent it
7 mischaracterizes testimony.

8 THE WITNESS: Yeah, I don't think that's quite
9 right. Maybe I'm just -- I'm not excluding it. I'm
10 just saying that as a person skilled in the art would
11 read the entirety of the patent, and a person of skill
12 in the art would understand blood vessel wall to have
13 its plain ordinary meaning to have three layers.

14 The specific meaning of a specific phrase or
15 sentence anywhere in the patent has to stand up on its
16 own and has to be viewed in the context of the entirety
17 of the phrase.

18 BY MS. VEGA:

19 Q. Got it. Okay. So, when, you see that blood
20 vessel wall is used one time in claim 1, correct?

21 A. That's right, yeah. I guess it's just once,
22 yeah.

23 Q. A person of ordinary skill in the art reading
24 claim 1, and the patent as a whole, would they
25 understand blood vessel wall to be referring to all

1 You'd have to be a little bit more specific about what
2 we're doing and how that, how that renal denervation is
3 being implemented.

4 BY MS. VEGA:

5 Q. Sure. So, in the context of a renal
6 denervation system in which energy is used to ablate
7 renal nerves, and surrounding tissue is meant to be
8 protected, is it possible for that surrounding tissue to
9 experience injury that is reversible?

10 MS. HARMS: Objection. Vague.

11 THE WITNESS: Again, we're still outside the
12 context of the patent. So what you're asking is,
13 there's a renal denervation system that's designed to
14 deliver energy to renal nerves, to ablate them.

15 In the process of doing so, is it possible
16 that other cells in the vicinity could be exposed to
17 temperatures, or temperatures or temperature and
18 durations that were insufficient to lead to cell death,
19 and irreversible injury? Sure.

20 I think that, that, as long as the,
21 characterize it as that --

22 Q. Yes.

23 A. -- in the attempt to do so, that you can be
24 raising the temperature of cells, besides the nerves,
25 but to a threshold that's not sufficient or for not

1 member was to read the claim of Medtronic's patent and
2 identify whether there was any structure there about the
3 term expandable member, right?

4 A. Within the Medtronic patent.

5 Q. Right, looking at the claim, whether the claim
6 includes any structural definition, right? Is that what
7 you did?

8 A. It was multiple steps. That was one of the
9 steps. After concluding that it was a functional term,
10 I looked to the claims language, specification,
11 prosecution history, as one is instructed to do in a
12 means plus function analysis.

13 Q. Right. And in looking at Medtronic's claim 1,
14 just the claim language, you concluded there wasn't
15 anything in the claim that recited structure about
16 expandable member, right?

17 A. That's exactly what I say in paragraph 82.
18 The surrounding claim language also does not provide any
19 structure for the expandable member and recites only
20 additional functional language.

21 Q. Okay. Now I'm asking you to do the same thing
22 for your claim 1 of the '189 patent.

23 Is there anything in that claim that recites
24 structure of the expandable member?

25 A. I would not -- sorry, go ahead.

1 Q. Okay. Let's turn to a similar term in the
2 '085 patent, which is expandable positioning element.

3 A. Yeah.

4 Q. I understand that Recor has proposed that
5 there are three associated functions with that element.

6 Do you agree with that?

7 A. Yes. There are three associated functions
8 associated with the term, expandable positioning
9 element.

10 Q. And the first function, that's similar to the
11 '629 in that it's, it's expandable, going from a low
12 profile delivery configuration to an expanded
13 configuration, right?

14 A. Yeah. I would say expand by being
15 transformable from a low profile delivery configuration
16 to an expandable configuration is similar to vary
17 between a reduced configuration for delivery and
18 retrieval and an expanded deployed configuration.

19 So, yes, they're similar functions.

20 Q. Okay, and I want to ask about the second
21 function, which is position the device within the blood
22 vessel by, when in the expanded configuration, placing
23 the at least one neuromodulation element radially inward
24 from an outer diameter of the expandable positioning
25 element.

1 And my question for you is, are you saying
2 that a function of the expandable positioning element is
3 to position the device in a specific way?

4 A. Give me one second, if you don't mind.

5 Yeah, it says exactly that. One of the
6 functions is to position the device within the blood
7 vessel, and then it characterizes that further.

8 Q. How is that different than the expandable
9 function?

10 A. A, an expandable positioning element or an
11 expandable member can, that's, the function of expanding
12 is limited to the configuration of the element from a
13 low profile delivery to an expanded configuration. It
14 says nothing about its relationship with a blood vessel.

15 The second function describes the function of
16 this element to position a device within a blood vessel,
17 within the blood vessel, in a particular way.

18 Q. Okay. The claim, and I'm referring to claim 1
19 of the '085 patent, says that the expandable positioning
20 element is configured to receive a cooling fluid, right?

21 A. Yeah, let me just make sure I'm reading the
22 right part here. Yeah. Wherein the expandable
23 positioning element is configured to receive a cooling
24 fluid.

25 Q. Now, that's not describing a function of the

1 **expandable positioning element, is it?**

2 A. Yeah. That is one of the functions of the, of
3 the element is to receive a cooling fluid, configured in
4 such a way to remove heat.

5 Yeah, that's what we're, that's what we're
6 saying. That's what I agree with. That is a function.
7 One of the functions of this element is to receive a
8 cooling fluid. That's what it's intended to do.

9 **Q. The fact that the expandable positioning**
10 **element receives fluid, that's something the expandable**
11 **element does? It's a function?**

12 A. That's, yeah, I view that as a function.

13 **Q. And you, do you agree with Recor that the**
14 **corresponding structure is an inflatable balloon?**

15 A. Yes.

16 **Q. Anything else?**

17 A. No. My analysis concluded, in going step by
18 step through the, using the criteria of means plus
19 function, that the only corresponding structure in the
20 specification of the '085 patent that has, that's
21 clearly linked and necessary to perform the functions is
22 an inflatable balloon, as discussed in section 94.

23 **Q. Okay. Can you look at column 10 of the '085**
24 **patent.**

25 A. Yes.